



## Chandra X-ray Observatory awaits move to launch pad

The Chandra X-ray Observatory remains in the transportation canister at the Vertical Processing Facility at Kennedy Space Center, Fla., awaiting transfer to Launch Pad 39B. Chandra's move was postponed because of a problem Monday with the Launch Pad's Rotating Service Structure, which provides workers access to the Space Shuttle.

Troubleshooting is under way to repair the Rotating Service Structure, with plans to move Chandra to the pad today. Chandra is already mounted to an Inertial Upper Stage booster, and NASA managers expect to install the observatory and booster into Space Shuttle Columbia's payload bay no earlier than Sunday.

Repair work on the payload ground handling mechanism at the launch pad was successfully completed last weekend, and the mechanism is ready to support payload operations at the pad.

Today's planned Terminal Countdown Demonstration Test — a dress rehearsal for the crew and launch team — may begin a couple of hours late to accommodate additional work and pad

clearance requirements.

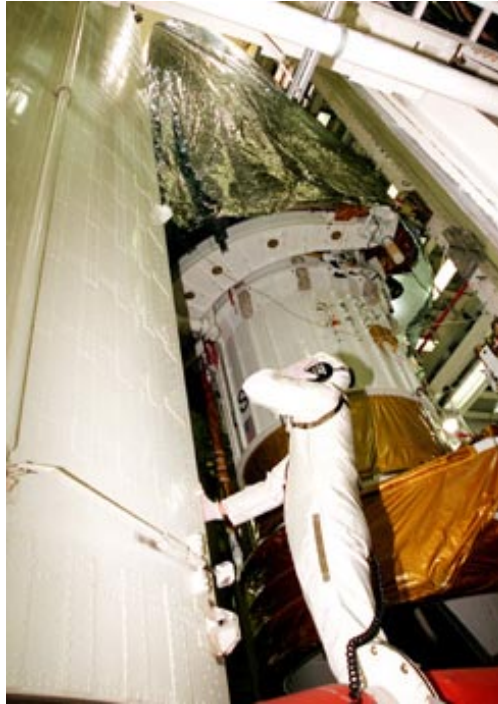
July 20 remains the target launch date for the Space Shuttle Columbia STS-93 mission. However, an official date will be set during the Flight Readiness Review July 8.

NASA's Chandra X-ray Observatory initially was given the green light to move to the launch pad June 16. The next day astronauts and controllers participated in a major launch simulation.

The Payload Readiness Review for Chandra and its Inertial Upper Stage booster concluded June 16 clearing it for transfer to its launch pad.

June 17, members of the Chandra X-ray Observatory team held the fourth of six launch and activation simulations. The simulation began with preparation for Chandra's deployment from the Space Shuttle cargo bay, through its boost to higher orbit on board an Inertial Upper Stage booster.

The exercise was designed to challenge controllers and managers by presenting a variety of situations and



Chandra is loaded into its transportation canister.

*See Chandra on page 3*

## Homer Hickam to join in Marshall's Apollo 11 celebration

by Mike Wright

Homer Hickam remembers the day that Neil Armstrong stepped on the Moon.

He watched it on television at Fort Lewis, Wash., with a group of U.S. soldiers destined for Vietnam. "It was a very strange moment," says Hickam, who had just come back from Vietnam and was scheduled to brief the departing soldiers on what to expect. "It was like the best and the worst of the 1960s were right there in front of me," he said referring to Apollo 11 and the war.

Now, 30 years later, Hickam, retired Marshall employee and noted author of the memoir "Rocket Boys," is focused on

Apollo 11 and the best part of the 1960s. He's looking forward to sharing his recollections of Apollo 11 July 16 when he will speak at the Center.

"We are excited that Homer has agreed to join us that day to talk about his book and his career at the Marshall Center," said Sandra Turner, chairman of Marshall's Apollo 11 30<sup>th</sup> Anniversary Committee. "We will announce more details later about his schedule for the day, but I know everyone at Marshall will want to mark July 16 on their calendars."

Hickam's story — its movie version, "October Sky" released earlier this year — focuses on his high school years from 1957 to 1960 in Coalwood, W.Va. There, he and

his boyhood friends dreamed of becoming rocket engineers as they built their own rockets.

While most of Hickam's schedule over the last few months has focused on book signings and personal appearances, he has used many of those opportunities to tell about the work going on at the Marshall Center. "That's sort of my new cause — to carry the message of advanced space transportation to the public and tell them how important it is that we

*See Hickam on page 7*

**"Ample Lights for Safe Nights"**  
— Safety slogan submitted by  
Pat Avery EO46

# Astronaut Jan Davis returns to Marshall as deputy director of Flight Projects Directorate

by Tim Tyson

Three-time Shuttle astronaut Dr. Jan Davis returns to Marshall in early July as deputy director of the new Flight Projects Directorate.

The directorate is responsible for overseeing development of the International Space Station connecting Nodes 2 and 3, the Multi-Purpose Logistics Modules, commercial EXPRESS racks, the environmental and life support systems and the Payload Operations Integration Center.

Davis, as a member of the directorate's management team, will be responsible for Space Station development and operations tasks assigned to Marshall. She also will work closely with The Boeing Co. as it continues construction and structural testing of International Space Station elements and truss segments.

"Jan's experience in mission operations, her excellent relations with the crew office at Johnson Space Center, Houston, and her unique understanding of how Marshall and Johnson can work together, will be of great benefit to us as the Space Station is built," said Center Director Art Stephenson.

Davis has spent more than 670 hours in space over the course of her three flights. She first flew in September 1992 on STS-47, a dedicated life science and materials processing mission. Her next flight was in 1994 as a member of the STS-60 crew where she had the primary responsibility for supporting Wake Shield Facility experiments studying thin film crystal growth in a microgravity environment.

Her most recent flight was as payload commander for the STS-85 mission in 1997. During that mission, she successfully deployed and retrieved the CRISTA-SPAS satellite and demonstrated operation of the Japanese Manipulator Flight Demonstration robotic arm.

Davis was an engineer at Marshall in 1987 when she was

selected to be an astronaut. She currently is on assignment from the Astronaut Office to NASA Headquarters in Washington, D.C., as director of the Human Exploration and Development of Space Independent Assurance Office, located at Johnson Center.

"Jan has the unique capability of using her vast technical knowledge and her superb interpersonal skills to effectively provide to NASA management timely, objective, non-advocacy independent assessments of program technical integrity status of the Human Exploration and Development of Space Enterprise," said Fred Gregory, associate administrator for NASA's Office of Safety and Mission Assurance. "She will be greatly missed."

Davis began her career at Marshall in 1979, leading a team responsible for structural analysis and verification of the Hubble Space Telescope, the telescope servicing mission and the Chandra X-ray Observatory. Prior to being selected as an astronaut, she was lead engineer for the redesign of the Shuttle Solid Rocket Booster External Tank attach ring. She is a recipient of NASA's Outstanding Leadership Medal, Exceptional Service Medal and Space Flight Medal.

*The writer is a public affairs officer in the Media Relations Department.*



Jan Davis

## First manned Moon landing to be celebrated at Space Center

Apollo astronauts, a re-enactment of the first manned Moon landing and a full-size replica of the Saturn V rocket headline the U.S. Space & Rocket Center's 30<sup>th</sup> anniversary celebration of Apollo 11.

The three-day event, July 18-20, entitled "Earthrise — Thirty Years After" will showcase what is regarded as one of mankind's greatest achievements — placing humans on the Moon and returning them safely to Earth. The initial feat was accomplished July 20, 1969, when Neil Armstrong set foot on the Moon followed closely behind by Buzz Aldrin.

A re-enactment of the first steps on the

Moon will take place nightly July 18-20 at a reproduction of the Moon's surface in the Space Center's Rocket Park. Tickets for the three, 45-minute shows are \$8 for adults and \$5 for children. Children ages 3 and under are admitted free. Tickets are on sale at the Space Center. For information, call 721-7106.

Apollo astronauts Charlie Duke, Walt Cunningham, Edgar Mitchell, Al Worden and Richard Gordon are scheduled to appear at the July 18 re-enactment, which will be performed by actors. A fireworks display will be part of the finale at the July 20 re-enactment. Each of the shows will include special effects and be visible on

large-format screens. Other events and entertainment are to be added.

The celebration will take place near the latest addition to Rocket Park — a full-size replica of the Saturn V rocket. Towering 363 feet, it is being built as a permanent tribute to Huntsville's role in the Apollo program. The rocket is under construction, and is expected to be pointing toward the Moon by July 20.

Event ticket holders may enter through the main lobby at 6:30 each night and visit museum attractions before the show begins. Outdoor food and beverage concessions will be open. The Spacedome Theater will not be available.



## Celebration T-shirts on sale

T-shirts for the annual Marshall Center picnic July 17 are on sale through July 6. Costs are \$10 for sizes S-XL, \$11 for XX and \$12 for XXX. Payment must accompany order forms that are available at the NASA Exchange, Bldg. 4752, or on the Web at [srs.msfc.nasa.gov/PICNIC](http://srs.msfc.nasa.gov/PICNIC)

## Chandra

*Continued from page 1*

problems to test the teams' ability to effectively and rapidly solve them should they occur.

The STS-93 Columbia, led by commander Eileen Collins, took part in the simulation. Also participating were Chandra's Operations Control Center in Cambridge, Mass.; Huntsville Operations Support Center at Marshall; Mission Control at the Johnson Space Center in Houston; Inertial Upper Stage Control Center at Onizuka Air Force Station in Sunnyvale, Calif.; and the communications assets of both the Deep Space Network and the Tracking and Data Relay Satellite system.

"I am impressed with the dedication and hard work of the entire NASA and contractor team in readying this important international scientific resource for launch," said Chandra Observatory program manager Fred Wojtalik at the Marshall Space Flight Center. "The careful and deliberate testing, simulations and launch preparations we are conducting are key to a successful mission."

The latest status on NASA's newest space telescope, the Chandra X-ray Observatory, along with comprehensive background information, is available on the Internet at:

<http://www.msfc.nasa.gov/news/chandra/chandra.html>

## Personnel reassigned

Several Marshall employees have been reassigned in conjunction with the Center's reorganization objective to increase the focus on assigned roles and missions.

Frederick D. Bachtel has been reassigned to be deputy director of the Space Transportation Directorate. He previously served as manager of the Space Transportation Programs Office.

Bachtel joined Marshall in 1964 as a cooperative education student. He initially was involved in the Saturn and Skylab programs in the areas of thermal and environmental control. He has since been involved primarily in development and demonstration of advanced technologies and designs for reusable launch vehicles.

Dr. Helen V. McConnaughey has been reassigned as manager of the Vehicles and Systems Development Department in the Space Transportation Directorate.

She had served as director of the Propulsion Laboratory, Science and Engineering Directorate. McConnaughey has served in a variety of other key positions since joining Marshall in 1985, and has received recognition and awards for her many accomplishments.

Jerry W. Smelser has been reassigned as manager of the Technology Evaluation Department in the Space Transportation Directorate. He had been deputy manager of the Space Transportation Programs Office.

Smelser joined Marshall when it was established in 1960. He brings to this new assignment extensive and specialized experience in space transportation systems development and project management.

Dr. Benjamin E. Goldberg has been reassigned as manager of the Reusable Solid Rocket Motor Project in the Space Shuttle Projects Office. Prior to this, he served as deputy director in the Structures and Dynamics Laboratory of the Science and Engineering Directorate.

Goldberg assumes the duties previously performed by Keith Henson, who retired from federal service on June 3. Goldberg joined Marshall in 1983.

Armis "Lynn" Worlund has been reassigned to the position of chief engineer in the Space Shuttle Main Engine Projects of the Space Shuttle Projects Office. This position previously belonged to the Science and Engineering Directorate. He has held numerous positions of responsibility in a wide spectrum of propulsion activities since his employment with Marshall in 1961.



# One-stop crystal shop for Space Station unveiled

by Tracy McMahan

While astronauts are assembling the International Space Station in orbit, researchers participating in the Microgravity Research Program at Marshall are managing work on facilities that will turn the Station into an international laboratory.

The X-ray Crystallography Facility will allow crew members to preserve and analyze protein crystals in orbit for the first time.

Current X-ray crystallography facilities are about the size of an automobile. This equipment, which includes robotics and viewing systems for selecting the best crystals for onboard analysis with an X-ray generator, will fit in a single Space Station "wall" rack about the size of a household refrigerator.

No longer will precious crystal samples risk being damaged on a return flight to Earth, and important research information will be available to scientists much faster.

Protein crystal growth experiments that will be performed in the X-ray Crystallography Facility have great potential to aid in the treatment of life-threatening diseases. Experiments on the Space Shuttle — funded by Marshall's Microgravity Research Program — have helped scientists make important advances in understanding many diseases such as cancer, heart disease, diabetes, respiratory syncytial virus and hepatitis.

Researchers have taken advantage of the near-weightless environment of space to grow protein crystals that are larger and more well-ordered than otherwise possible. They also have used what they have learned in space to grow better crystals in Earth laboratories, which in turn has helped design more effective medicines.

The International Space Station promises to speed up this research, giving scientists almost four times as much time to do experiments in space. Not only will the Space Station give researchers more time for experiments, it will have room for



University of Alabama at Birmingham engineer Lance Weise, left, shows astronaut Bonnie Dunbar the X-ray generator — a lightweight, compact X-ray device about the size of a suitcase. The generator will allow scientists to analyze crystals in orbit for the first time.

larger facilities like the X-ray Crystallography Facility.

Scientists can grow the crystals, use robotics to select the best ones for study and analyze them with a special X-ray generator — making it essentially a one-stop shop for crystal growth and analysis. In addition, the cryopreservation or "freezing" of crystals is possible. Crystals preserved in this manner can either be analyzed in space or returned to the scientists on the ground for further study.

The prototype for the facility was recently unveiled at the University of Alabama at Birmingham Center for Macromolecular Crystallography in Birmingham, a NASA Commercial Space Center that is part of the Space Product Development Program at Marshall.

The flight version of the crystallography facility is scheduled for launch in 2003. Space Station construction is scheduled for completion in 2004.

*The writer, a contractor employed by ASRI, supports the Media Relations Department.*



## Ready for action

Marshall Center Deputy Director Carolyn Griner christens the new barge, Pegasus, at the Michoud Assembly Facility in New Orleans, La. The 260-foot-long barge replaces the NASA barge Orion, built in 1945 and modified and upgraded in 1965. The Pegasus will transport Space Shuttle external tanks from Michoud to Kennedy Space Center, Fla.



## Six Marshall employees, contractors on N. Alabama Council of Girl Scouts board

Six Marshall employees and contractors are voluntary board members of the North Alabama Council of Girl Scouts. This also marks the first time a mother-daughter pair has served on the board. The council sets policy and oversees operations for the Girl Scouts of North Alabama Inc.

Marshall employees and contractors serving on the board include Patricia Benson, computer engineer in Marshall's Astrionics Laboratory; John Hanson, branch chief of the Flight Mechanics, Guidance, Navigation and Control Systems Branch; Chris Robinson, special events coordinator employed by Ai Signal Research Inc. to support the Customer and Employee Relations Directorate (CaER); Ola Metcalfe, information specialist in CaER; Tereasa Washington, director of CaER; and Rosa Kilpatrick, community relations specialist with the Government and Community Relations Department. Joi Kilpatrick, Rosa Kilpatrick's daughter, is also on the board.

## Redstone Arsenal MWR benefits extend to Marshall's contractors

One of the benefits of working for a company doing business with the Marshall Center and the U.S. Army's Aviation and Missile Command at Redstone Arsenal is that contractors have the privilege of using most of the Army's Morale, Welfare and Recreation (MWR) services on the Arsenal.

As a member of "Team Redstone," contractors are eligible to use the clubs, restaurants, bowling center, flying activity, child and youth services, and many other community and family programs and services. Contract employees are eligible for membership at the Redstone Arsenal Club, Redstone's only membership dinner club, and the Redstone Golf Course.

Contract employees need to show proof of employment with a firm doing business with Redstone Arsenal — such as a badge or letter from the company's personnel or project office on company stationery — to start enjoying the benefits.

"We want people to feel a part of 'Team Redstone' and look forward to seeing more people at the club, golf course and at our other MWR facilities," said Yvonne Coleman McGuire, MWR's sales and marketing director.

For more information, call MWR at 876-5232, the club at 830-9175 or the golf course at 883-7977.

## Luedtke selected as NASA associate administrator for procurement

NASA Administrator Daniel S. Goldin has selected Tom Luedtke,



instrumental in many of NASA's new procurement initiatives, as the associate administrator for procurement, effective immediately.

Luedtke has been acting in this position since August. Luedtke will continue to guide and oversee some of NASA's most far-reaching procurement initiatives. He will represent NASA procurement to the Congress, the White House, other government agencies, industry and international organizations.

"Tom Luedtke brings vast experience, considerable skills and boundless creativity to this position at a time when NASA procurement activities continue to undergo dynamic reform," Goldin said.



Courtesy photo

### Celebrating Team STD

Rick Bachtel, third from right, deputy director of the Space Transportation Directorate (STD), and a group of employees celebrate creation of Team STD June 3 at Marshall's picnic pavilion.

# Milestones to Apollo 11

*Editor's Note: Almost 30 years ago three Americans lifted off on a journey to the Moon atop a Saturn V provided by Marshall. To mark that anniversary, Marshall is planning an Apollo 11 30<sup>th</sup> anniversary celebration on July 17. The Star is publishing some of its stories that led up to the launch of Apollo 11.*

A Marshall Star article on June 25, 1969, reported that preparations were under way for a wet countdown demonstration test for the launch of Apollo 11.

"Preparations for the launch of Apollo 11 are proceeding on schedule at Kennedy Space Center. Countdown is to begin at 11 p.m. CDT July 10 aiming for liftoff at 8:32 a.m. July 16.

"The wet countdown demonstration test begins at 11 p.m. tonight with T-0 set for 8:32 a.m. CDT July 1. The dry CDDT is scheduled for July 2 with T-0 at 8:32 a.m.

"A number of Marshall Center personnel will be at KSC for the CDDT and the launch. About 175 will be on duty in the Huntsville Operations Support Center at launch time. Only about 100 of these will be on duty for the CDDT, the remainder being 'on-call.'

"Dr. F.A. Speer, manager of the Mission Operations Office, will be at the HOSC. Scheduled to be at KSC for the CDDT are Lee B. James, manager of the Saturn Program, and several members of the on-site technical support crew, including J.W. Glass, J.N. Hardage, J.O. Christy, Morris Kinser, Charles Graff, and L.E. Paschal."



File photo

Saturn V rocket at the launch pad.

## Relay Run volunteers sought for Marshall's Apollo 11 celebration set July 17

Plans are moving forward for this year's annual Marshall picnic July 17, which also will include celebration of the 30<sup>th</sup> Anniversary of Apollo 11, the mission that took the first humans to the surface of the moon.

Kicking off the celebration on that Saturday morning will an easy-paced relay run to symbolize generations of Marshall teams "passing the torch" from the Apollo era to today, and taking it forward it into the future.

"Our idea is to loosely pattern this on the Atlanta Olympics Torch Relay, which was tremendously inspiring to see, and even more memorable for those who were fortunate enough to participate," said Jerry Berg, of Marshall's Media Relations Department, who is coordinating plans for the torch event. "This will be something that combines fun and symbolism."

The run will convey that the legacy established by Marshall's Apollo-Saturn team has been maintained over the past 30 years and is still alive and strong, Berg said. "A key message is that now, it is being carried into the future by our 'new rocket team,'" he noted.

"We are still working on the details for the run. What we need now, though, is for volunteers to get on board to participate. Those who would like to learn more about being involved should drop me an e-mail," Berg said.

Meanwhile, following the torch relay will be the children's parade that will lead picnic festivities into a fun filled day of games, food, entertainment and fellowship for all.

"The Picnic committee is working extremely hard for the Marshall team," said Dawn Cross, this year's picnic chairperson. "My motto is 'just think of what we can accomplish if we don't care who gets the credit.'"

Picnic meal tickets will be on sale from June 30 to July 14 between the hours of 11 a.m. and 1:30 p.m. at the cafeterias in building 4203, 4610, 4471, 4708 and the NASA Exchange in Bldg. 4752.

Volunteers are still needed and organizations are asked to adopt a booth for the day. Call Chip Sullins at 544-7335.

To show a motorcycle or car during the a classic, antique and custom car show, call Rich Wegrich at 544-2626.

To show an airplane, call Paul Johnson at 544-3793 to make necessary arrangements. Prior permission is required from the military, so call early.

Coed volleyball will begin the week of July 12 with the finals being held July 16. Call Tim Huff at 544-4377 or Dana Tipton at 544-7879 for more information.



# Hickam

*Continued from page 1*

get going on these programs,” Hickam said.

One of those opportunities to promote advanced space transportation came on David Letterman’s “Late Night” show. “When I was on the Letterman show and just mentioned the big



Homer Hickam

bad rockets that Huntsville was capable of building, you could feel the electricity that went through the audience and back to me about ‘Yeah, let’s do it.’”

Hickam joined Marshall in 1981 after working for the U.S. Army Missile Command for 10 years. Before retiring from NASA in February 1998, he specialized in training astronauts on science payloads and extravehicular activities. He trained crews for many

Spacelab and Space Shuttle missions, including the Hubble Space Telescope Deployment mission, the first two Hubble repair missions, Spacelab-J and the Solar Max repair mission. He also worked on spacecraft design and propulsion.

He is proud that his book and movie have helped rekindle public enthusiasm for space exploration. “I think the failure of imagination and declining interest in space has been primarily one of the government and not the people. If we announced tomorrow that we planned on going back to the Moon and that we were going to build these big new advanced propulsion drives, I think the American public would quickly become energized and get the politicians to move on it.”

Hickam’s latest book, “Back to the Moon,” focuses on the space program as well. It also features Huntsville and the Marshall Center. “When I am out on the road, I always talk about Huntsville’s past, as well as its present and future — with emphasis on the future, which I think is boundless if we will build these new propulsion drives.”

Hickam’s visit to the Center coincides with its celebration marking the 30<sup>th</sup> anniversary of the first lunar landing. The Marshall Center provided the huge Saturn V launch vehicle that lifted the first Americans to the surface of the Moon.

*The writer works in the Internal Relations and Communications Department.*

## Marshall Center supports education



Photo by Doug Stoffer

### NEW teachers visit Marshall labs

Twenty-six math, science and technology teachers from throughout the country are visiting Marshall through Friday to participate in the 16th annual NASA Educational Workshop (NEW). The teachers are visiting labs and facilities to learn about the wide range of Marshall responsibilities in America’s space program.



Photo by Terry Leibold

### High school students explore careers

Vince Huegele of the Space Optics Manufacturing Technology Center launches a constructed rocket as 12 students watch. The Madison County area students participated in a weeklong program, which showcased 15 presenters and tours on career exploration. The Explorer Post 2001 Program was held June 7-11.

## Employee Ads

## Miscellaneous

- ★ Computer table, L-shape, \$50; monkey grass (liriope), 50 cents per plant; Elderberry, \$4 per plant. 539-8976
- ★ Bench seats for full-size van, \$35 ea.; handi-capped lift with roll around base, \$160. 852-6952
- ★ Pool table, 4'x8' heavy slate, \$900 obo. 723-8176 after 3 p.m.
- ★ Discontinued Longaberger baskets. 728-5679
- ★ Whirlpool washer and dryer, 6 yrs. old, \$275; Regina carpet shampooer, \$100; Mt. Shasta mountain bike, \$150. 461-8689
- ★ Whirlpool window air conditioner w/thermostat control, 21,000 btu, 220V. 880-6335
- ★ Honda self-propelled lawn mower, HR214, with bag, \$200. 922-5727
- ★ 1987 Mastercraft boat, Pro-star 190, 351 V-8 engine/powerslot, gray/red, 800 hrs. 536-9521
- ★ Mac SE, great for parts or kids, \$10. 885-0789
- ★ Lazy Boy sectional sofa w/recliner on one end, blue, \$650. 837-6838
- ★ Window air conditioner, 5400 btu, \$100; stationary bicycle, Tunturi 330, \$50. 539-0263
- ★ Bubbles beanie baby, \$120. 971-0048
- ★ MTI garden tub, new, white acrylic, 6'x42", \$200. 586-7797
- ★ Huffy portable basketball goal, \$70; Hedstrom swingset, \$50; Little Tykes castle, \$95. 922-9387
- ★ Chess table, Italian marble top, heavy decorative iron pedestal base, \$350. 882-1097
- ★ 1997 Yamaha GP760 Waverunner, \$4,000; 1995 Venture \$2,500; both with double trailer, \$7,000. 883-6611

## Vehicles

- ★ 1991 Colt Vista, 7-passenger, 4-wheel drive, 2-tone, \$5,995. 883-7348
- ★ 1990 300ZX, two plus two, black w/beige interior, \$8,000. 890-0297
- ★ 1996 Pontiac Firebird, 3800 V-6, 71K miles, red w/gray interior, auto/ac/cruise, am/fm cassette, \$10,000. 582-3664
- ★ 1998 Nissan Quest GXE van, blue w/gray interior, fully loaded, back seat AC/heat, 24K miles, \$23,000. 772-5599
- ★ 1986 300ZX Nissan, turbo, 5-speed with T-tops, \$3,900. 852-8763
- ★ 1988 Mazda B2200 pickup, 5-speed manual transmission, A/C, bedliner, \$600. 851-6425

- ★ 1993 Chevy Silverado, LWB, 5.7L, auto, bedliner, matching fiberglass shell, 53K miles, \$10,900. 830-6584
- ★ 1985 Stanza, one owner, air pw/pdl, 4-door, 5-speed, maintenance records, \$1,250. 230-6846
- ★ 1977-1/2 Porsche 924, silver, 4-speed, sunroof, 135K miles, \$2,100 obo. 828-6213
- ★ 1988 Buick Skylark, new tires, \$3,500. 433-1501 after 4:30 p.m.

## Wanted

- ★ Wire trap to catch squirrels and chipmunks; wood planer. 881-6040

## Free

- ★ Mechanical/metallurgical engineering books and samples of materials from 1960s and 1970s.
- ★ Floor furnace, gas, 75,000 BTU. 539-8976
- ★ Small female puppy to good home, 7 weeks old, playful, friendly. 772-6840

## Center Announcements

- ☛ **Potable Water Outage** — A potable (drinking) water outage will be from 7 a.m. July 3 to 6 p.m. July 5 for the following buildings and areas: NASA Sewage Plant, 4762, 4200 area (all buildings), 4614, 4628, 4607, 4612, 4605, 4194, 4187, Airfield (4800 area), 4424, 4700 area (all buildings, including Marshall Activities Bldg. 4752), 4643, 4622/23, 4610, 4619, 4611, 4191 and 4189. The Army is installing valves at or around water tanks to improve water system efficiency. No test area buildings are affected by this outage nor is Bldg. 4663. Buildings not on the list probably will not be affected. For more information, call Cleve Nilsen at 544-8081.
- ☛ **TMA Scholarships** — The Marshall Association is offering two scholarships to dependents of Marshall employees who are high school graduates entering a college or university in the fall as freshmen. Value of the scholarships will be at least \$1,000 each. One scholarship will be for a student studying science, engineering or mathematics; the other for a student studying business, teaching, arts, etc. An application form is posted on "Inside Marshall." To apply, download and complete the form, and send to Axel Roth, FD01, Bldg. 4203, room 3414. Application deadline is July 9.
- ☛ **Marshall Integrated Directives System Training** — Mandatory training for the new Marshall Integrated Directives System for ISO 9000 will

be held June 29 in Morris Auditorium. The 2-hour sessions will begin at 8:30 a.m., noon and 2:30 p.m. Marshall Form 59s are not needed. There will be sign-in cards at the door. Individuals who attended this training at the "Marshall on the Move" conference at the Von Braun Center May 28 need not attend again. For more information, call Pat Schultz at 544-7559 or Laura Groce at 544-9154.

- ☛ **Shuttle Buddies Breakfast** — The Shuttle Buddies will meet for breakfast at 9 a.m. Monday, June 28, at Shoney's on University Drive West. For more information, call Deemer Self at 881-7757, or Gail Wynn at 852-8189.
- ☛ **American Express Vacation Office Closed** — Marshall's American Express Vacation office will be closed until July 6. New vacation bookings may be booked by calling (407) 867-3927 or 1-800-851-8233.
- ☛ **Housing for Summer Students** — Students at Marshall for summer educational programs have need of short-term lodging, particularly graduate students participating in the NASA Graduate Student Researchers Program. To host or rent a room to a student during the summer or for short-term summer workshops, call Frank Brannon in the Education Programs Office at 544-5920.
- ☛ **Redstone Toastmasters** — Do you want to improve your speech? Visit and join Redstone Toastmasters, which meets weekly at 6 p.m. on Tuesday at Piccadilly Cafeteria in Madison Square Mall. For more information, call Joe Jones at 461-0476.
- ☛ **Lunar Nooners Toastmasters** — The NASA Lunar Nooners Toastmasters Club meets Tuesday at 11:30 a.m. in Bldg. 4610 cafeteria conference room. All Marshall employees, contractors and friends are invited to attend. For more information, call Lee Johns at 544-5142.
- ☛ **Photo Lab Retirees Meet** — Photo Lab retirees meet July 6 at 9:30 a.m. at Shoney's on University Drive and South Memorial Parkway. For more information, call Charles Allen at 852-0917.
- ☛ **MESA Meeting** — All members are invited to the monthly Marshall Engineers and Scientists Association membership meeting at 11:30 a.m. Sunday in Bldg. 4471, room C-105.

## Job Opportunities

**CPP 99-59-CP, Accountant, GS-510-5/7**, Center Comptroller, Financial Management Office. Closes June 28.  
**CPP 99-61-CV, Executive Support Assistant (OA), GS-303-9**, Office of the Associate Director. Closes June 28.

## MARSHALL STAR

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